Ton Duc Thang University
Center for Applied Information Technology

Excel 2016

Course Lecture

FUNDAMENTALS OF INFORMATICS 2

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- Textbooks:

  – Joan Lambert, MOS 2016 Study Guide for Microsoft Excel, 2017.

- References:

  – Joan Lambert, MOS 2016 Study Guide for Microsoft PowerPoint, 2017.

  – John Wiley, Microsoft Official Academic Course, Microsoft Word core 2016, 2016.

Ton Duc Thang university

Chapter 4

Manipulating data cells

Chapter 4. Manipulating data cells

4.1 Insert data in cells/ranges

4.2 Reuse data (copy/cut – paste)

4.3 Construct cells (insert/delete)

4.4 Apply Auto Fill

4.5 Find and replace data

Chapter 4. Manipulating data cells

4.1 Insert data in cells/ranges

4.2 Reuse data (copy/cut – paste)

4.3 Construct cells (insert/delete)

4.4 Apply Auto Fill

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1. Enter data in cells/ranges

2. Import data from the text file

3. Enter special characters

1. Enter data in cells/ranges

2. Import data from the text file

3. Enter special characters

- **Numeric data:**

  - Enter numeric data as a general number. It may be formatted as a scientific number (Ex: 4.356E+24) if the value is large or is showed as number signs (###...) if the length is longer than the column width.

  - Enter numeric data as a date format number: **mm/dd/yyyy** or **dd/mm/yyyy** depending on the date format of computer.

  - Enter numeric data as a time format number: **hh:mm:ss**.

- Logical data:

- There are 2 values: **TRUE** or **FALSE**.

- We rarely enter logical data but get them from the formulas in cells.

- String data:

- Containing any text characters or beginning with the prime character (′).

❖ *Notice: by default*
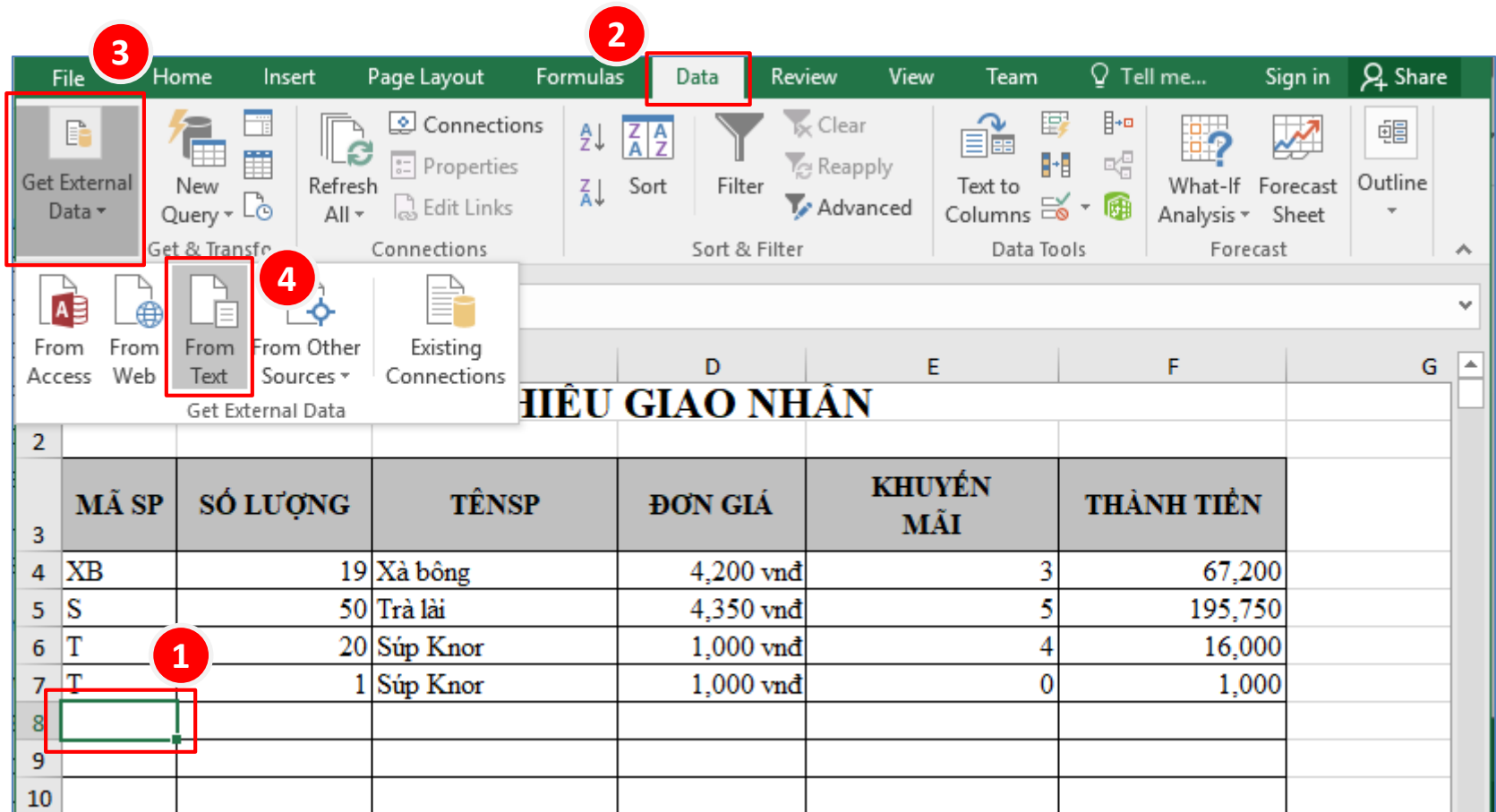
- Numeric data is right aligned in cells

- Logical data is center aligned in cells

- String data is left aligned in cells

1. Enter data in cells/ranges

2. Import data from the text file

3. Enter special characters

2- Import data from the text file

- Steps: Select the beginning cell **(1)**→ tab **Data (2)** → **Get External Data (3)** → **From Text (4)** → in the **Import Text Fil**e box, select the file.
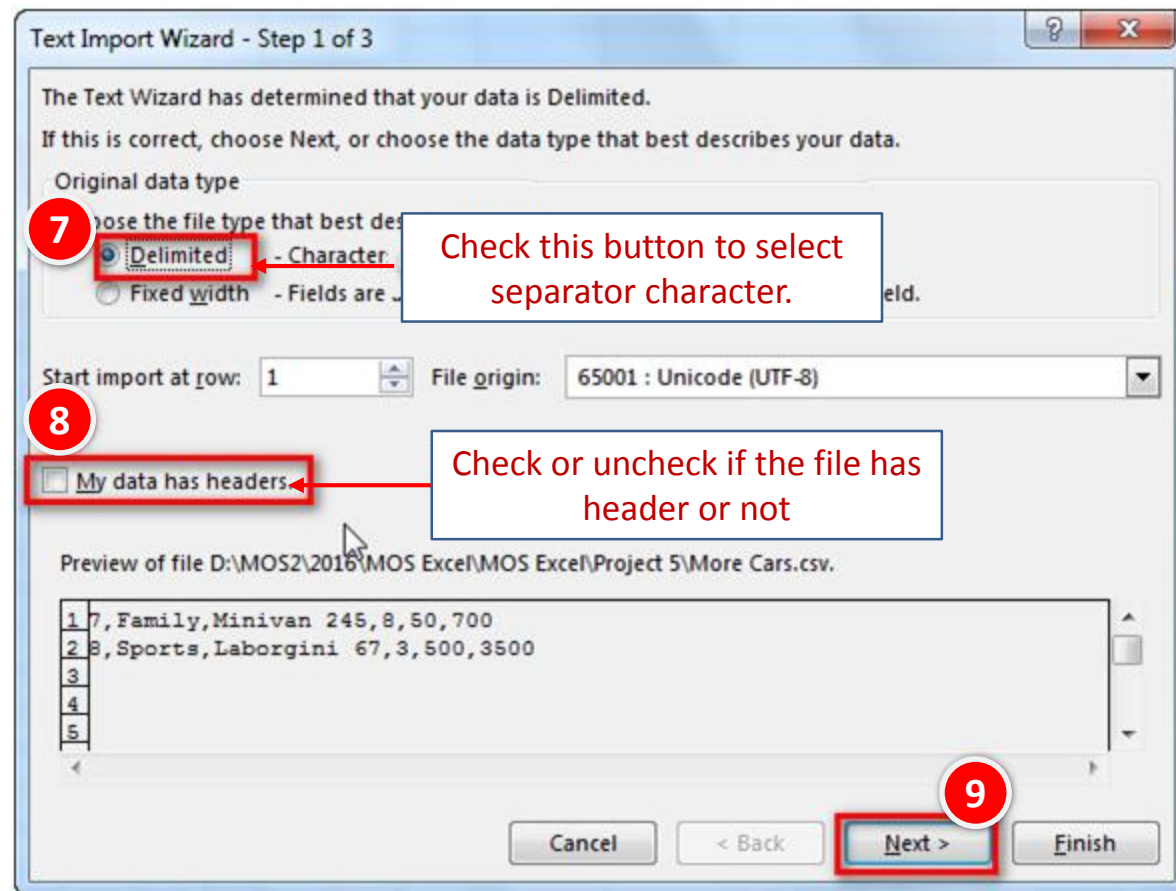
2- Import data from the text file

- Steps (cont): → select the text file **(5)** → **Import (6)** → the **Text Import Wizard** dialog box is popped up**.**

Select the file
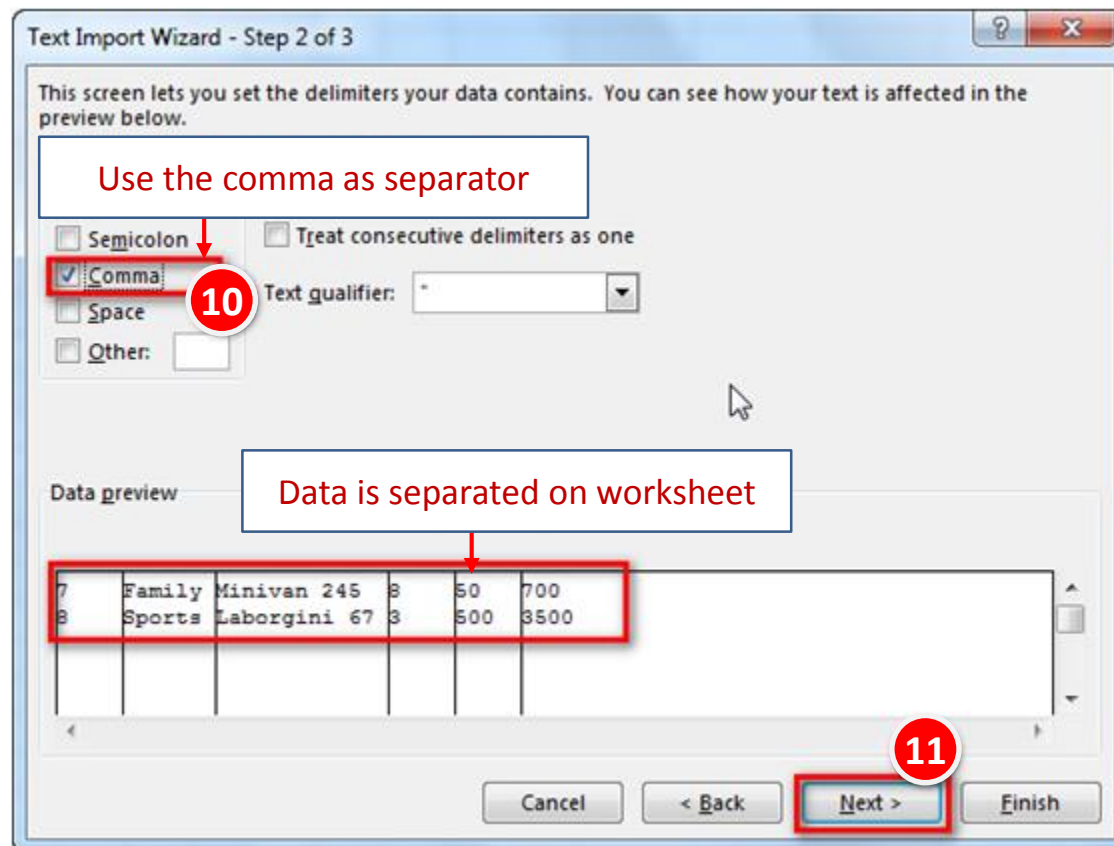
Select the folder containing the file
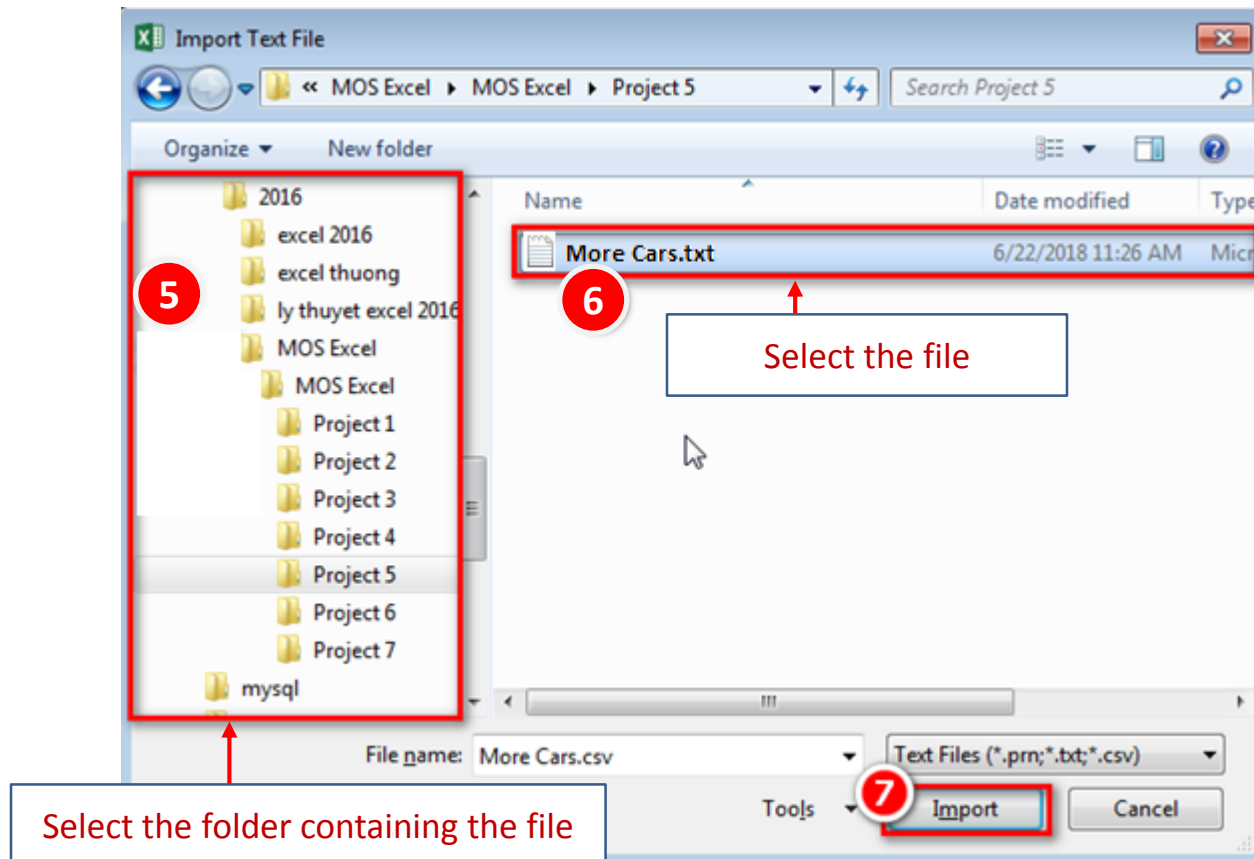
2- Import data from the text file

- Steps (cont): → click the **Delimited** check box **(7)** → select/unselect the **My data has headers** option **(8)** → **Next (9)**
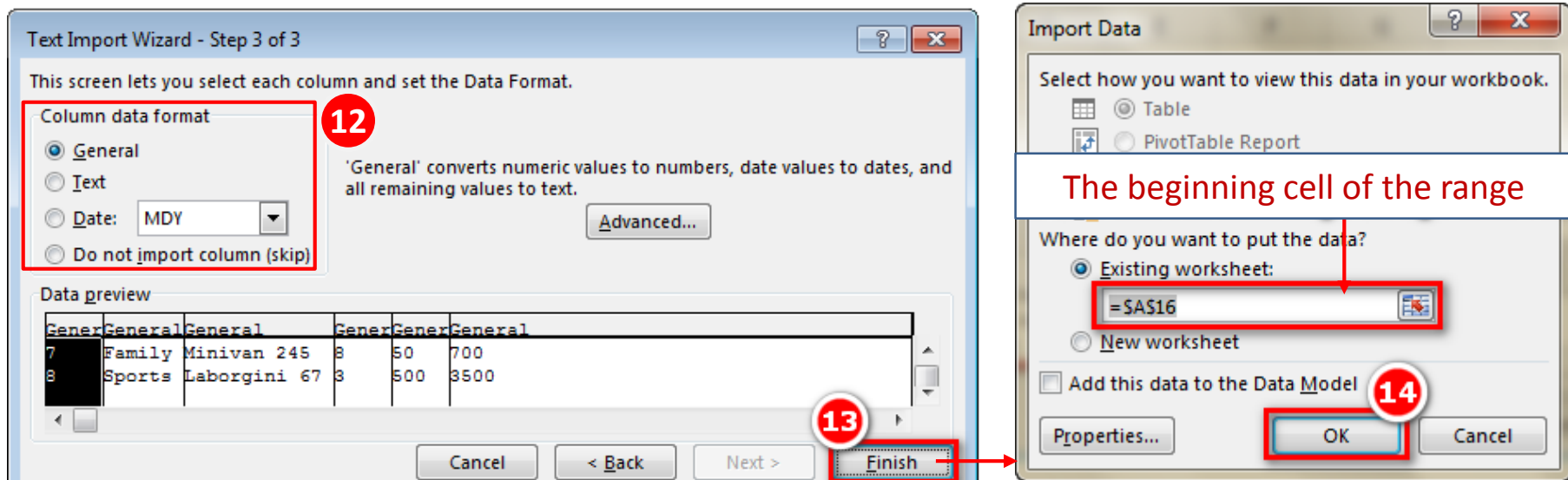
2- Import data from the text file

- Steps (cont): → Select the delimiter **(10)** → **Next (11)**

2- Import data from the text file

- **Steps (cont):** → Select the format in the **Column data format** area **(12)** → click **Finish (13)** → **OK (14)**
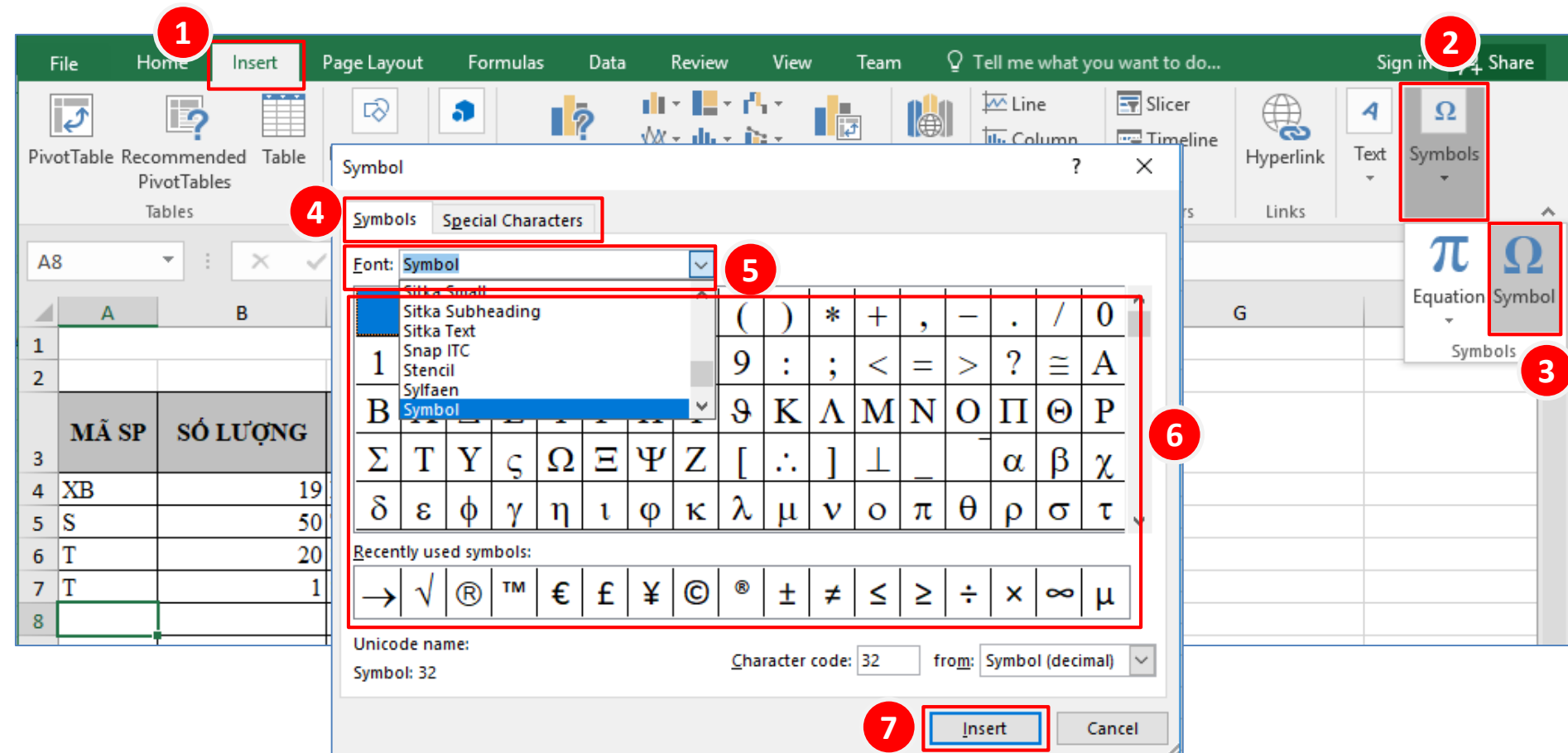

- **The result:** All data from the selected file is inserted in the existing worksheet from the selected cell or in new worksheet if you check the **New worksheet** option.

1. Enter data in cells/ranges

2. Import data from the text file

3. Enter special characters

3- Enter special characters

- Steps: Tab **Insert** **(1)** → Group **Symbols** **(2)** → **Symbol** **(3)** → tab **Symbols or Special Characters** **(4)** → select **Font** **(5)** → select the character **(6)** → **Insert** **(7)**.

Chapter 4. Manipulating data cells

4.1 Insert data in cells/ranges

4.2 Reuse data (copy/cut – paste)

4.3 Construct cells (insert/delete)

4.4 Apply Auto Fill

4.5 Find and replace data

1. Copy data
2. Move data

- **To copy data as usual**:

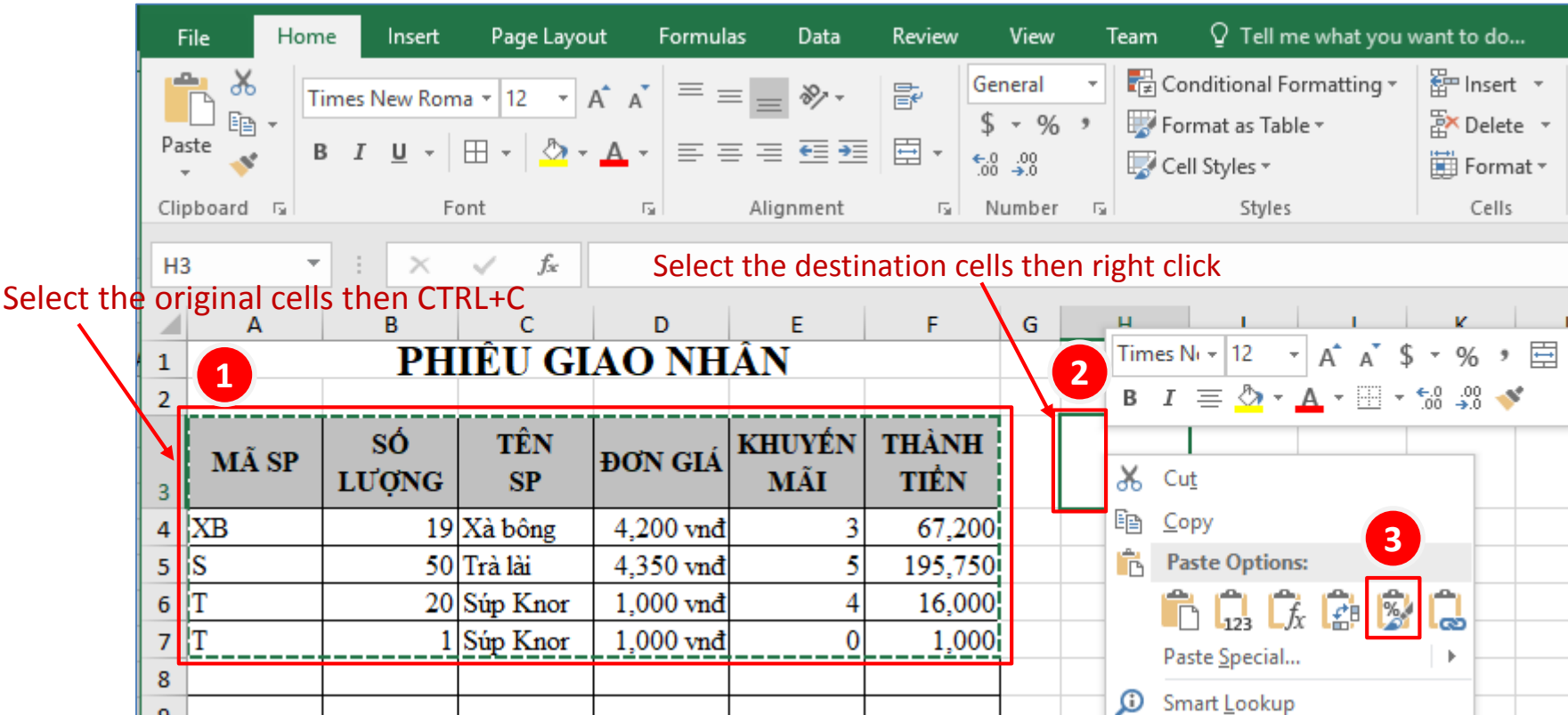 - Select the original cells/ranges $\rightarrow$ tab **Home** $\rightarrow$ **Copy** (or **CTRL+C**) $\rightarrow$ select the destination cells/ranges $\rightarrow$ tab **Home** $\rightarrow$ **Paste** (or **CTRL+V**).

- Excel offers additional advanced techniques for pasting beside pasting all as usual to make it more useful for data manipulation through the **Paste** list, the **Paste Options** list or **Paste Special** feature.

- **To paste only the formatting:** select the original cells/ranges → tab **Home → Copy (CTRL+C) (1)** → select the destination cells/ranges → **Right click (2) → Paste options**: **Formatting (3)**
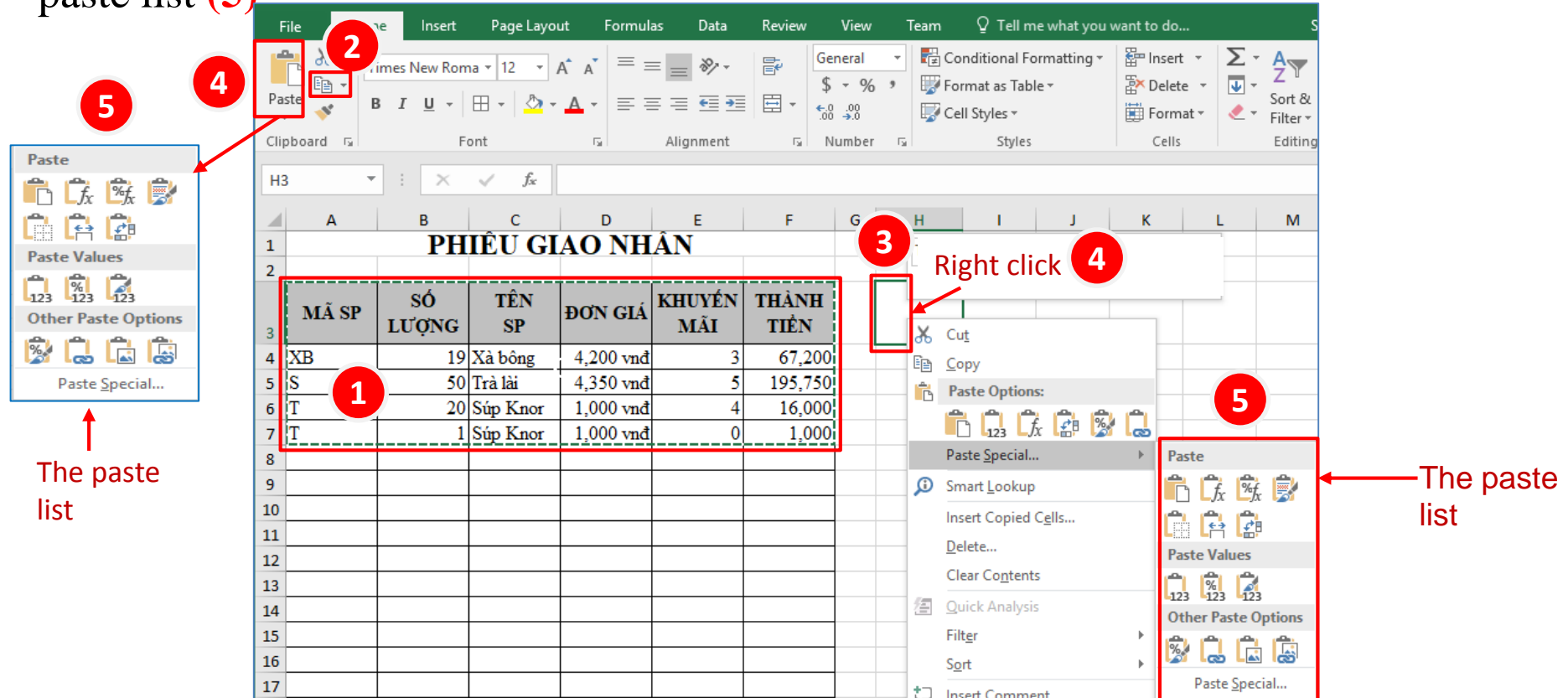
- **To paste values, formulas…**: select the original cells/ranges **(1)** → tab **Home** → **Copy** (or **CTRL+C**) **(2)** → select the destination cells/ranges **(3)** → tab **Home** → click the **Paste list** (or **Right click**) **(4)** → select the option in the paste list **(5)**
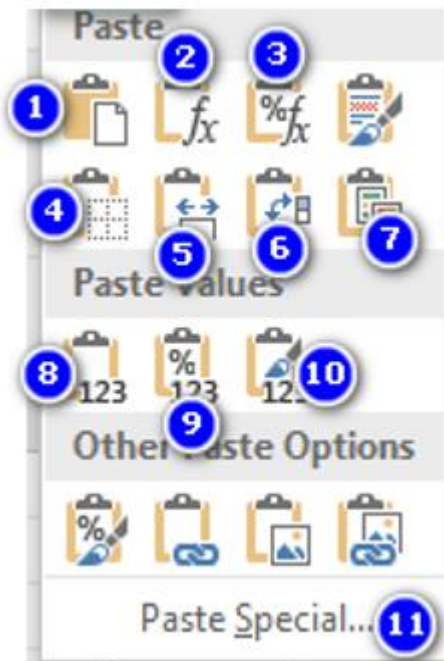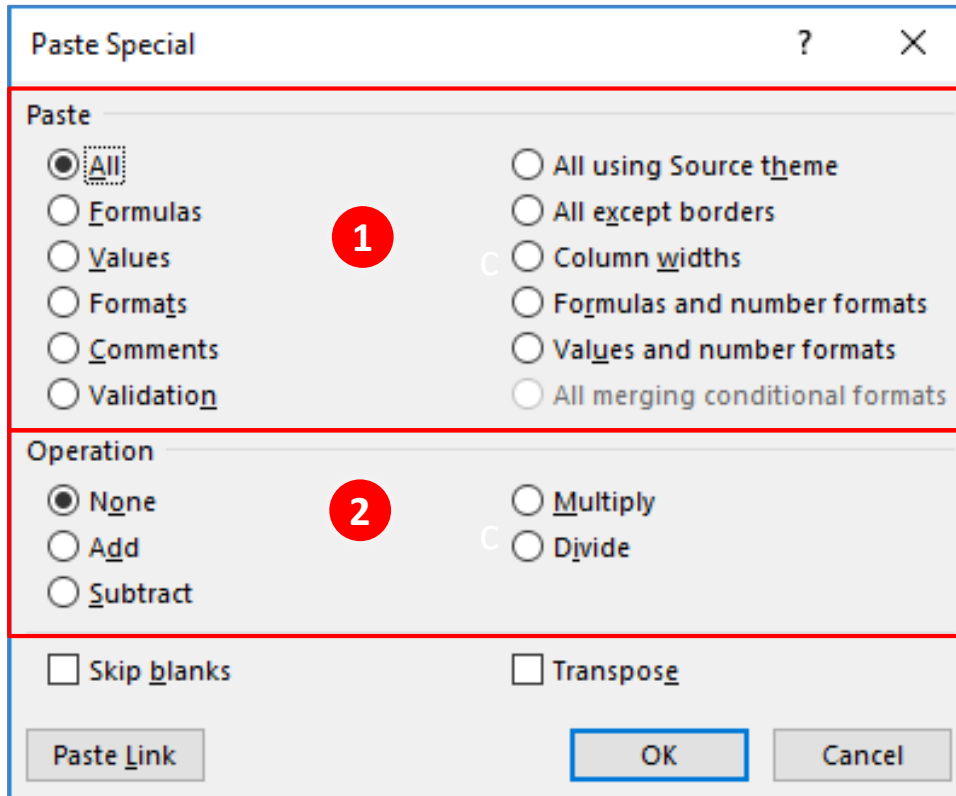

The paste list

The paste list

- The paste list:

1. ⁻ All
2. ⁻ Formulas only.
3. ⁻ Formulas & Number formatting.
4. ⁻ All without borders.
5. ⁻ All with the column widths.
6. ⁻ Transpose.
7. ⁻ All with conditional formatting.
8. ⁻ Values only.
9. ⁻ Values & Number formatting.
10. ⁻ Values & Source formatting
11. ⁻ More paste special options.

1- Copy data

- Other paste special options: Paste Special dialog box

➤ **Paste Options (1)**: paste option list to choose which one you need.

➤ **Operation (2)**: To add, subtract, multiply, or divide values in two data ranges

- **Add**: The copied cells/range will be added to the cells/range you paste.

- **Subtract**: The copied cells/range will be subtracted to the cells/range you paste.

- **Multiply**: The copied cells/range will be multiplied to the cells/range you paste.

- **Divide**: The copied cells/range will be divided to the cells/range you paste..

- **To move data from cells/range to another**:

  • **Move to the empty cells/range**: Select the original cells/ranges → tab **Home** → **Cut** (or **CTRL+X**) → select the destination cells/ranges → tab **Home** → **Paste** (or **CTRL+V**).

  • **Move to the none empty cells/range**: **:** Select the original cells/ranges → tab **Home** → **Cut** (or **CTRL+X**) → select the destination cells/ranges → tab **Home** → **Insert** → **Insert Cut Cells**.

Chapter 4. Manipulating data cells

4.1 Insert data in cells/ranges

4.2 Reuse data (copy/cut – paste)

4.3 Construct cells (insert/delete)

4.4 Apply Auto Fill

4.5 Find and replace data

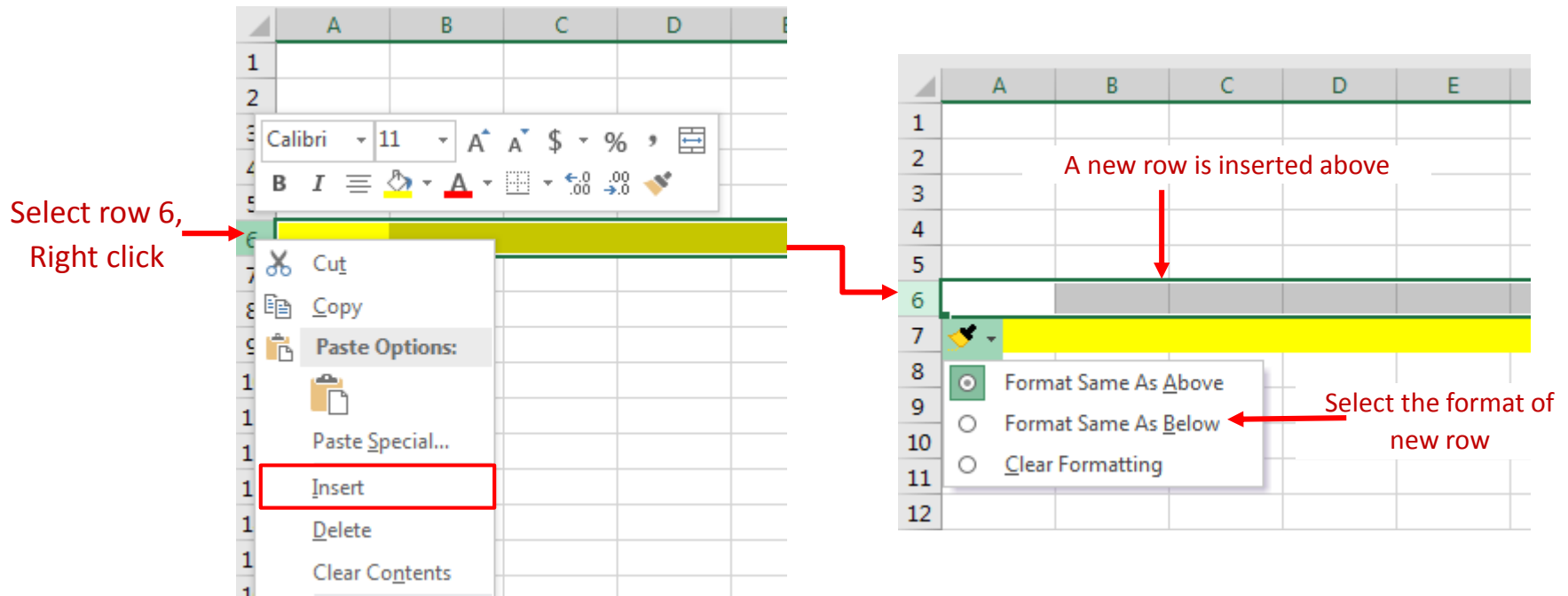1. Insert empty cells/rows/columns

2. Delete cells/rows/columns

3. Insert the cut cells/range

4. Insert the copied cells/range
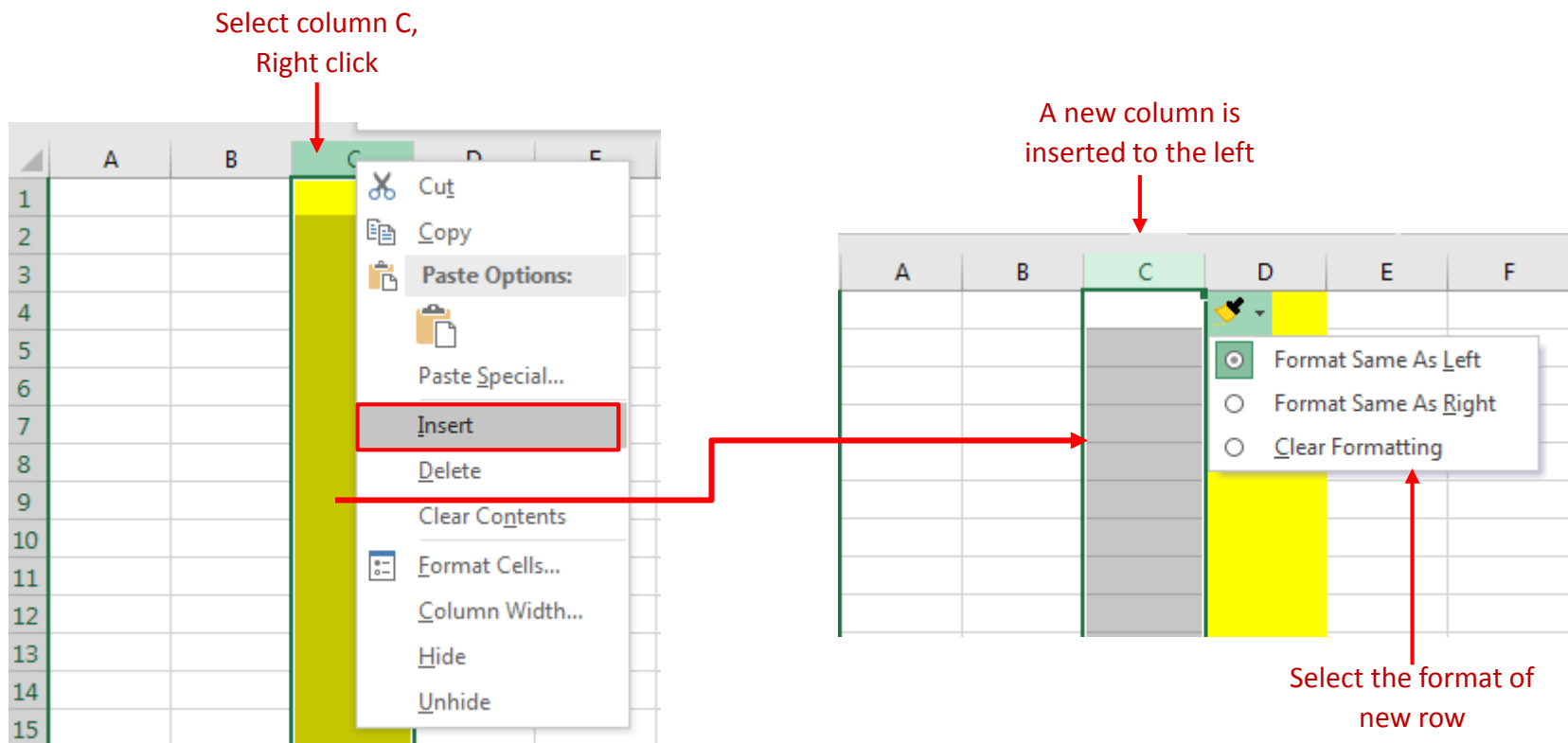
1. Insert empty cells/rows/columns

2. Delete cells/rows/columns

3. Insert the cut cells/range

4. Insert the copied cells/range

1- Insert empty cells/rows/columns

- **To insert a row on a worksheet:** Select the row → **Right click** → **Insert**

- **Example:** Insert a row at row 6 → **Select row 6**

Select row 6, Right click

A new row is inserted above

Select the format of new row

1- Insert empty cells/rows/columns

- **To insert a column on a worksheet :** Select the column → **Right click → Insert**

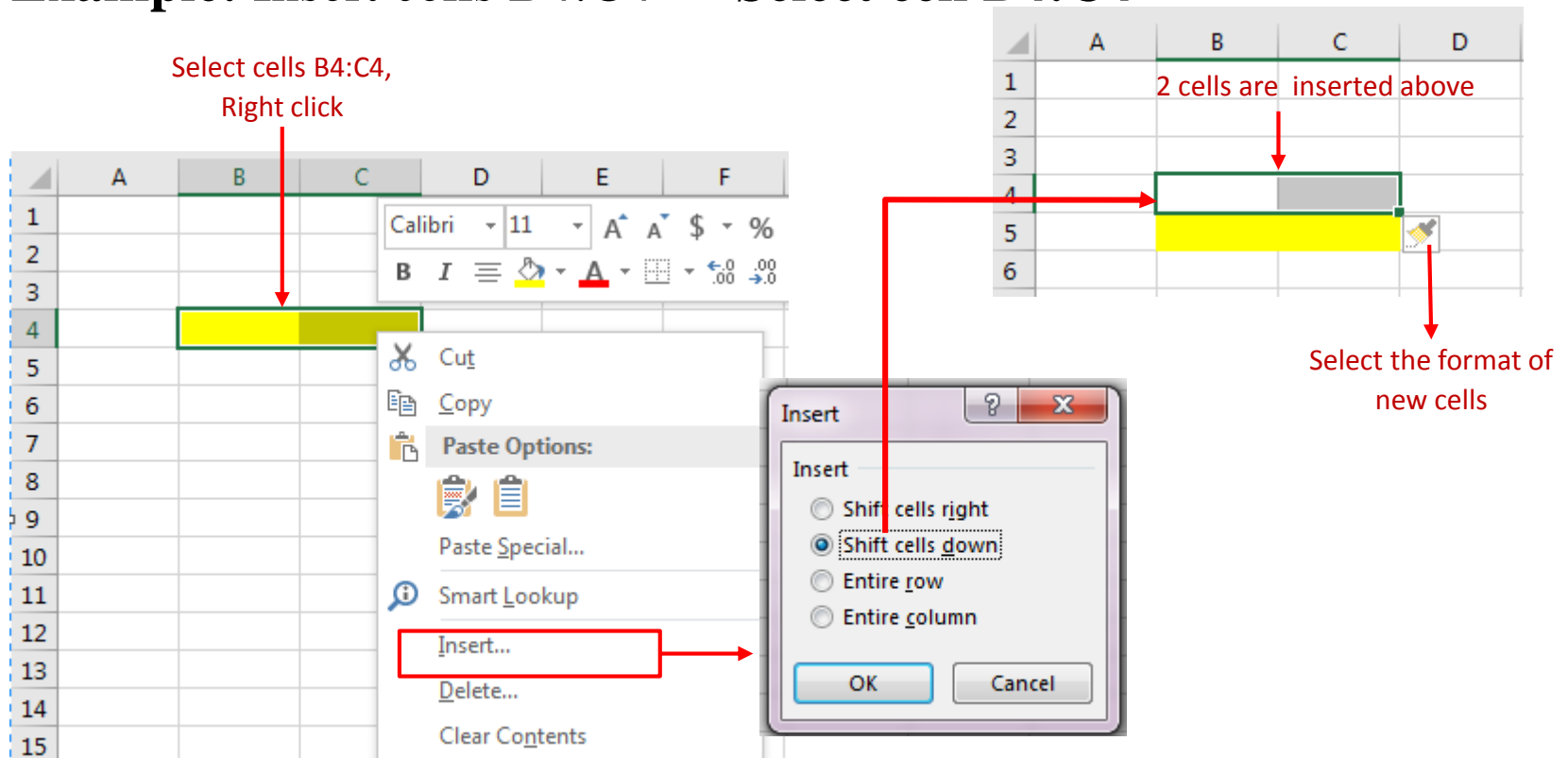**Example:** Insert a column at column C → **Select column C**

Select column C,
Right click

A new column is
inserted to the left

Select the format of
new row

1- Insert empty cells/rows/columns

- **To insert cells on a worksheet:** Select the cells → Right click → **Insert** → select **Insert Options**

- **Example:** Insert cells B4:C4 → **Select cell B4:C4**

Select cells B4:C4, Right click

2 cells are inserted above

Select the format of new cells

1- Insert empty cells/rows/columns

- **To insert a row on a table** : Select a cell in the table → **Right click (1)** → **Insert (2)** → Select **Table rows above (3)**.

- **Example**: Insert a table row above the fourth row in the table → **Select cell B6**.
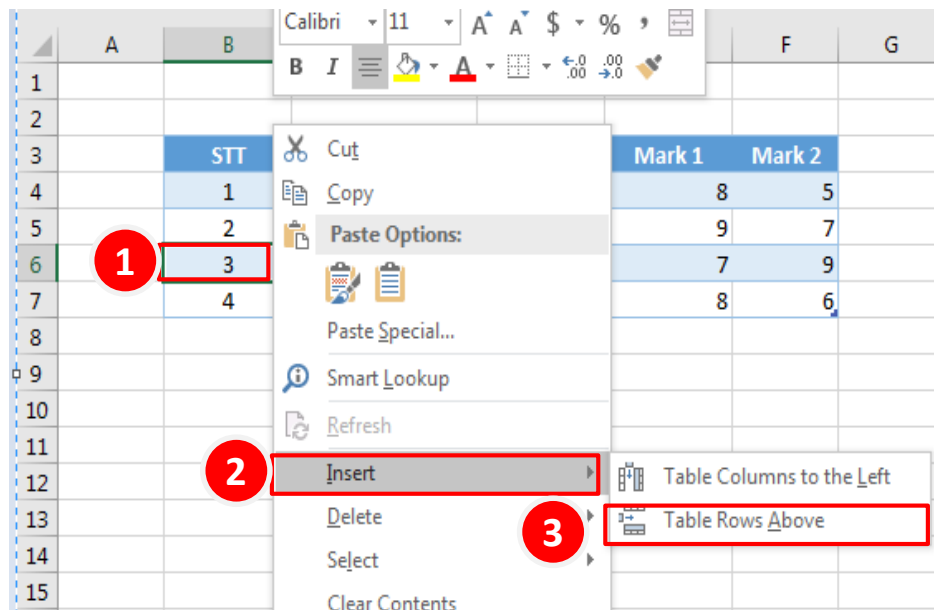
A new table row is inserted above

1- Insert empty cells/rows/columns

- **To insert a column on a table** : Select a cell in the table → **Right click (1)** → **Insert (2)** → Select **Table columns to the Left (3)**.

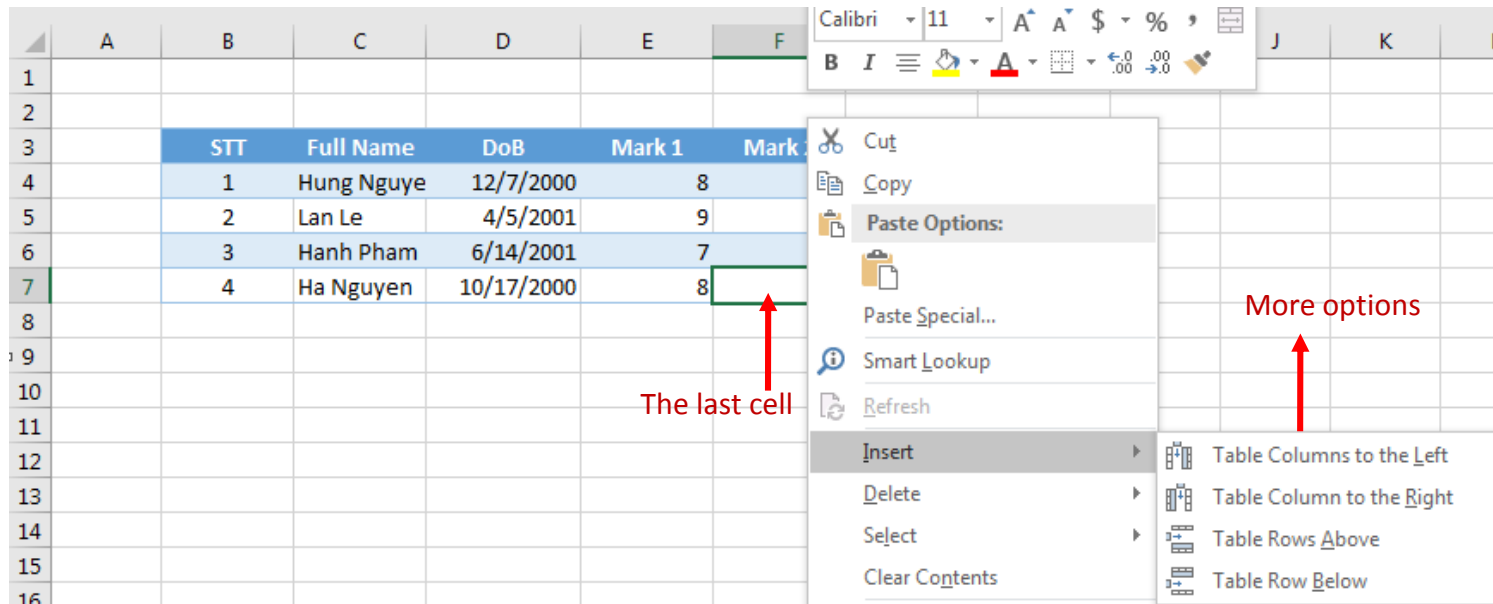- **Example**: Insert a table column to the left the first one in the table → **Select cell B6**.
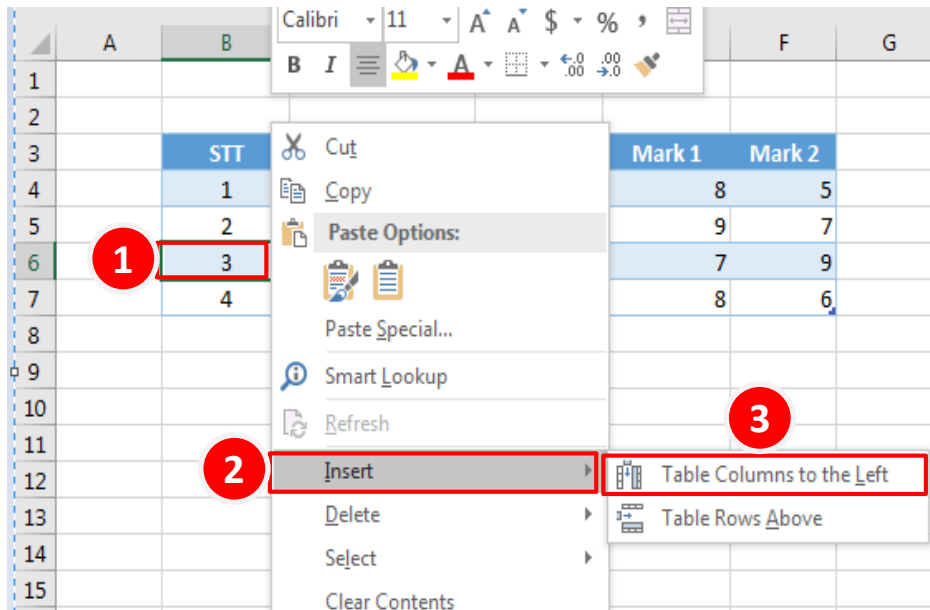
A new table column is inserted to the left

1- Insert empty cells/rows/columns

- **To insert a column/a row on a table**: If the selected cell is on the last row or last column, there are more options when you click the **Insert** command.

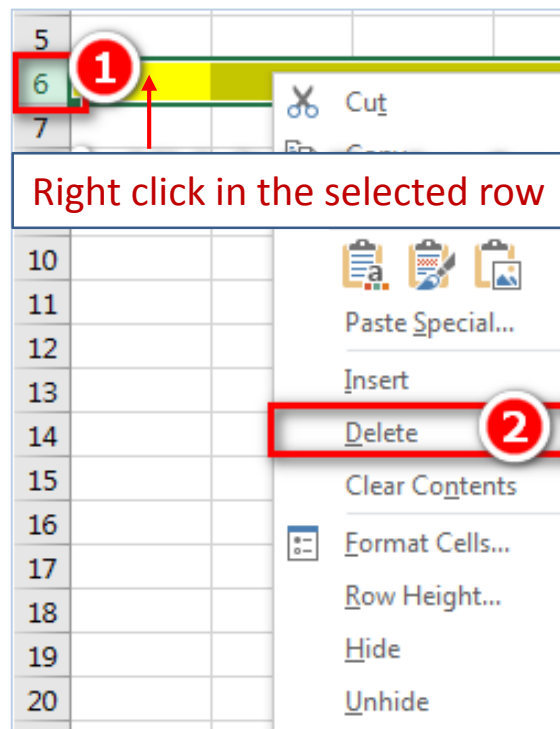- **Example**: Select the last cell on the table.

4.3 Construct cells (insert/delete)

1. Insert empty cells/rows/columns

2. Delete cells/rows/columns

3. Insert the cut cells/range

4. Insert the copied cells/range

- **To delete a row on the worksheet:** Select the row → **Right click (1) → Delete (2)**

- **Example:** Delete row 6: **Select row 6 → Delete**
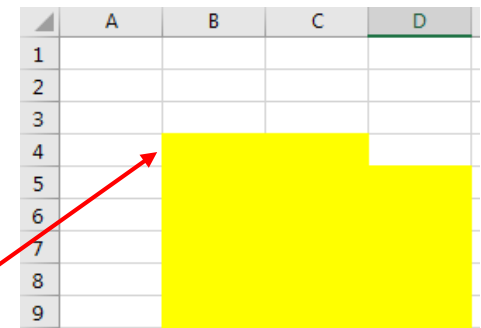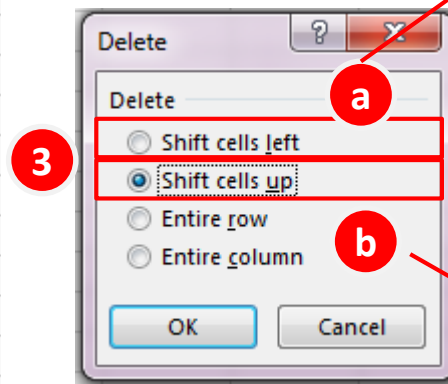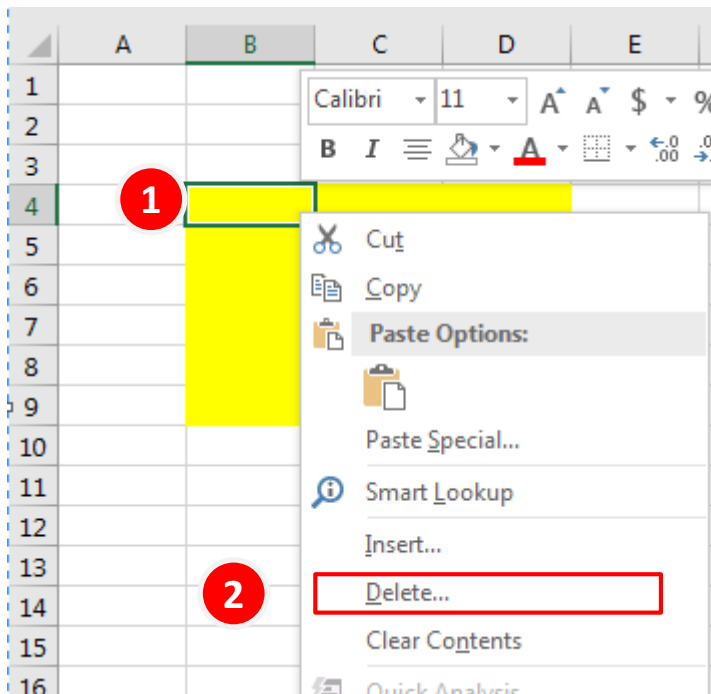

Right click in the selected row

2- Delete cells/rows/columns

- **To delete a column on the worksheet:** Select the column

  → **Right click (1)** → **Delete (2)**

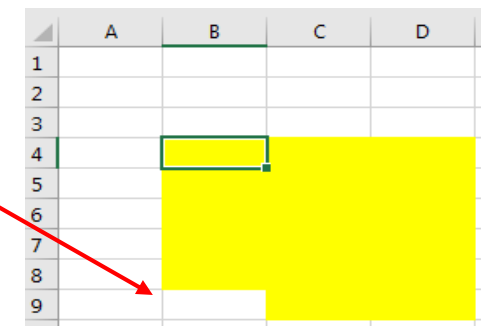- **Example:** Delete column F → **Select column F → Delete**

Right click in the column F
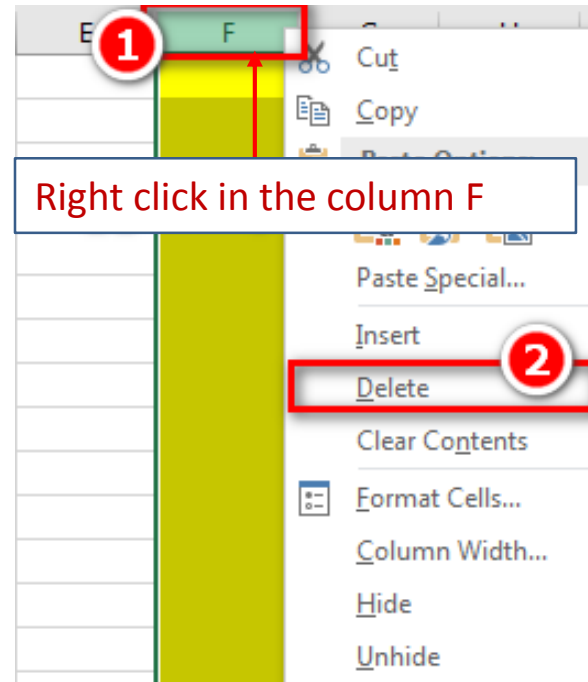
2- Delete cells/rows/columns

- To delete cells/range on the worksheet: Select cells/range → **Right click (1) → Delete (2)** → select the delete options **(3)**: **Shift cells left (a)** or the **Shift cells up (b)** check box
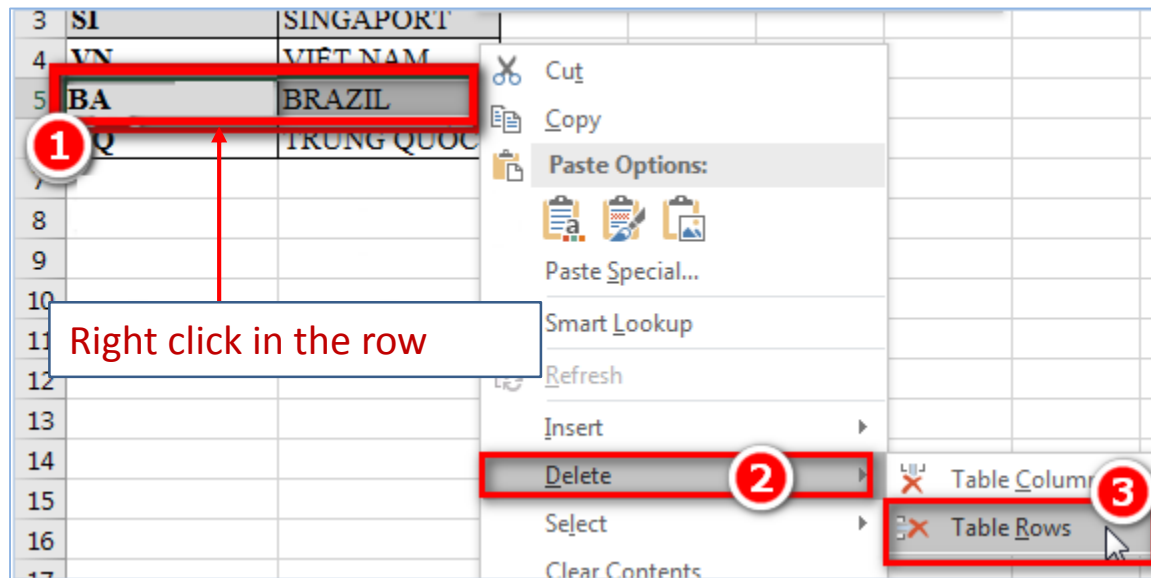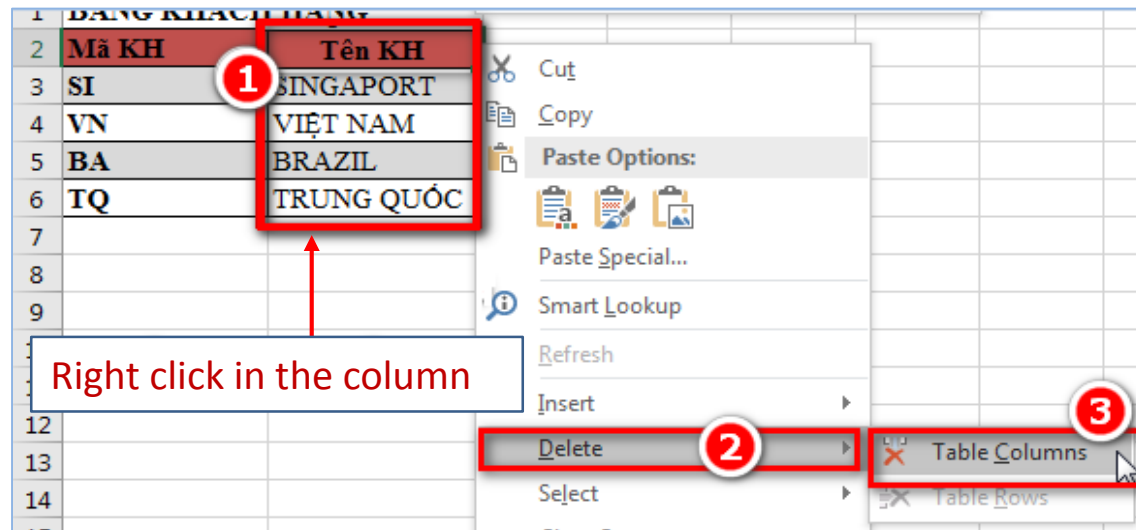

The result

- **To delete a row on a table:** Select the row in the table → **Right click (1)** → **Delete (2)** → **Table Rows (3)**.

- **Example**: Delete the row on row 5 → **Select the row**.

- **To delete a column on a table:** Select the column in the table → **Right click (1)** → **Delete (2)** → **Table Columns (3)**.

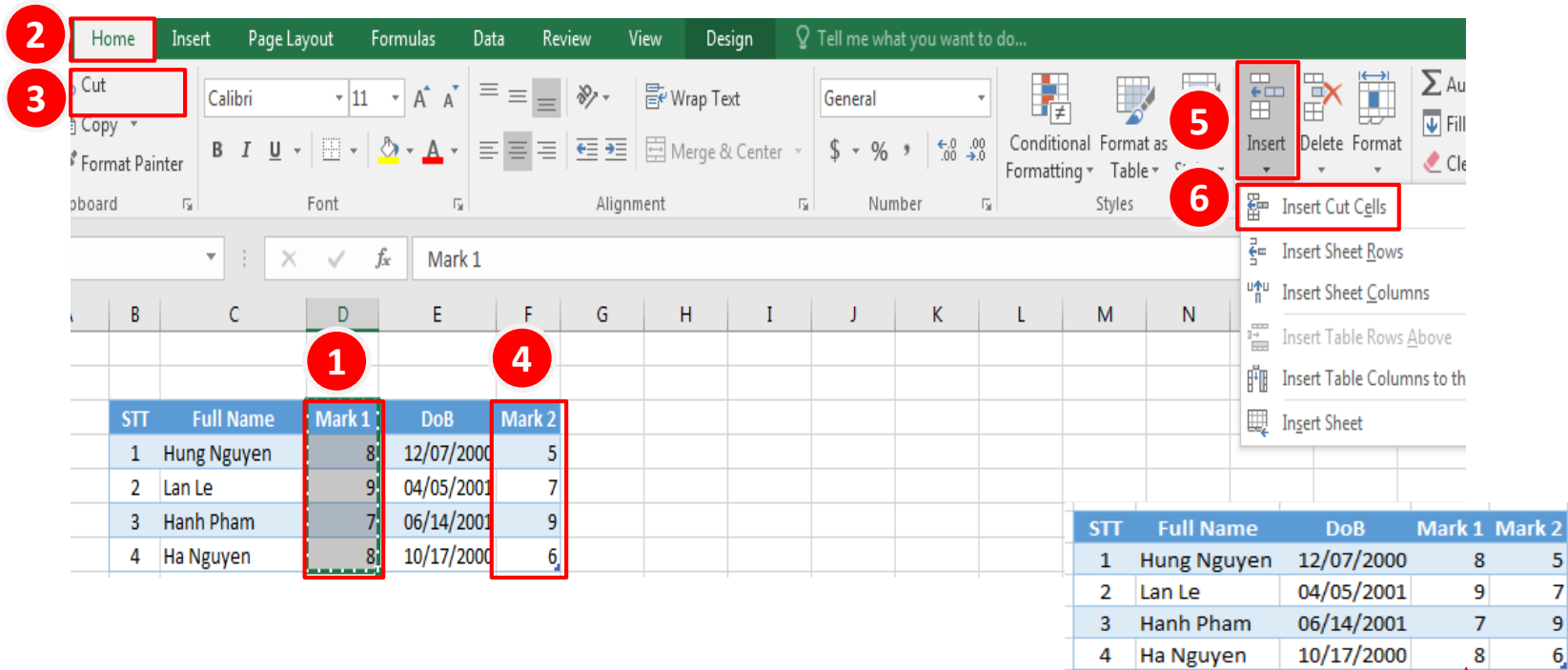- **Example**: Delete the **Tên KH** column→ Select the **Tên KH** column.

1. Insert empty cells/rows/columns

2. Delete cells/rows/columns

3. Insert the cut cells/range

4. Insert the copied cells/range

3- Insert the cut cells/range

- **Steps**: Select the original cells/ranges**(1)**→ tab **Home(2)** → **Cut(3)** (or **CTRL+X**) → select the destination cells/ranges **(4)** → tab **Home → Insert (5) → Insert Cut Cells (6)**.
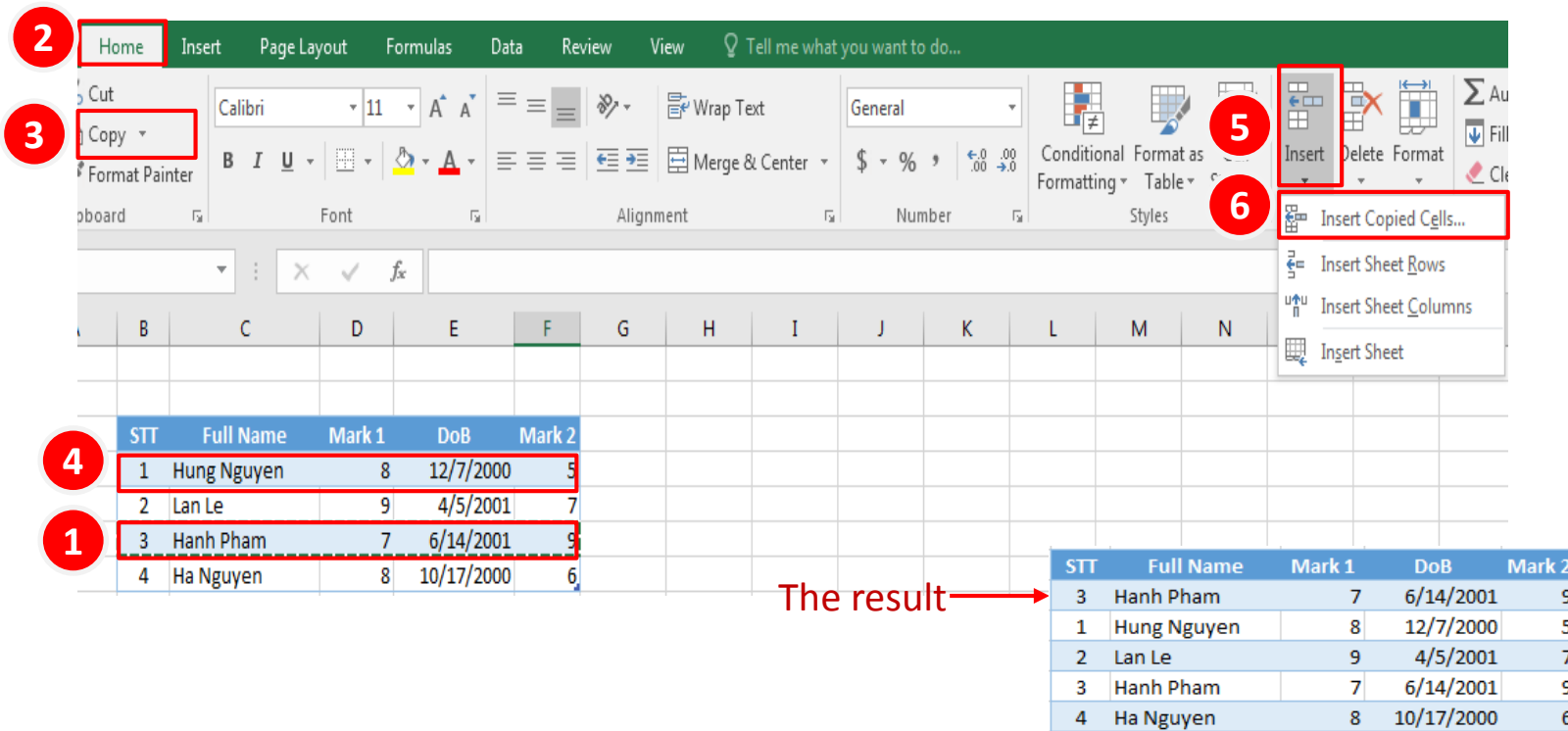
4.3 Construct cells (insert/delete)

1. Insert empty cells/rows/columns

2. Delete cells/rows/columns

3. Insert the cut cells/range

4. Insert the copied cells/range

3- Insert the copied cells/range

- **Steps:** Select the original cells/ranges**(1)** → tab **Home(2)** → **Copy(3)** (or **CTRL+C**) → select the destination cells/ranges **(4)** → tab **Home** → **Insert (5)** → **Insert Copied Cells (6)**.

The result

Chapter 4. Manipulating data cells

4.1 Insert data in cells/ranges

4.2 Reuse data (copy/cut – paste)

4.3 Construct cells (insert/delete)

4.4 Apply Auto Fill

4.5 Find and replace data

1. Automatically fill normal data

2. Automatically fill a series of numbers

3. Automatically fill a series of dates

4. Automatically fill a built-in custom list

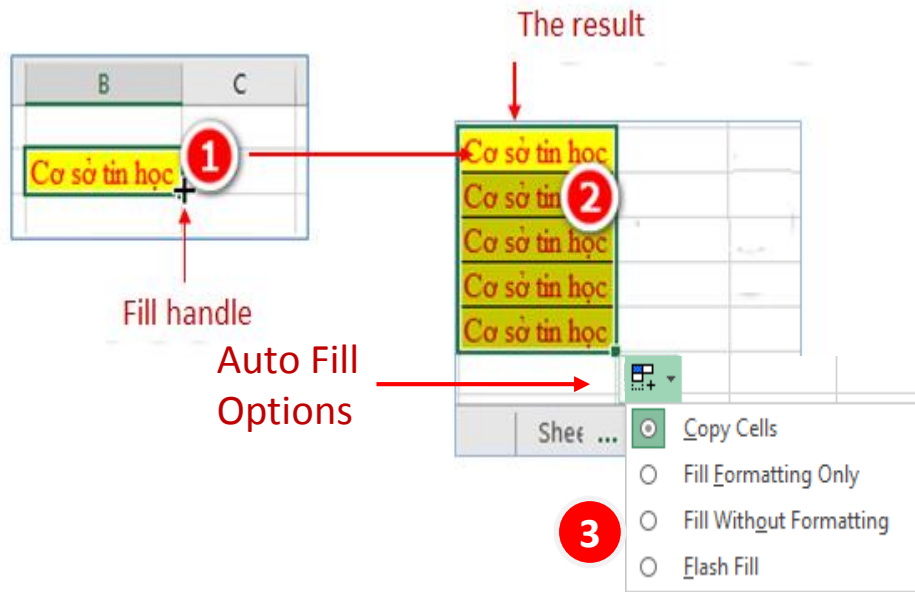5. Automatically fill a user custom list

1. Automatically fill normal data

2. Automatically fill a series of numbers

3. Automatically fill a series of dates

4. Automatically fill a built-in custom list

5. Automatically fill a user custom list

- **Steps**: Select the beginning data cell **(1)** → drag the **Fill Handle** down or to the right **(2)** (place mouse at the lower-right corner of the cell) → select **Auto Fill Options (3)**
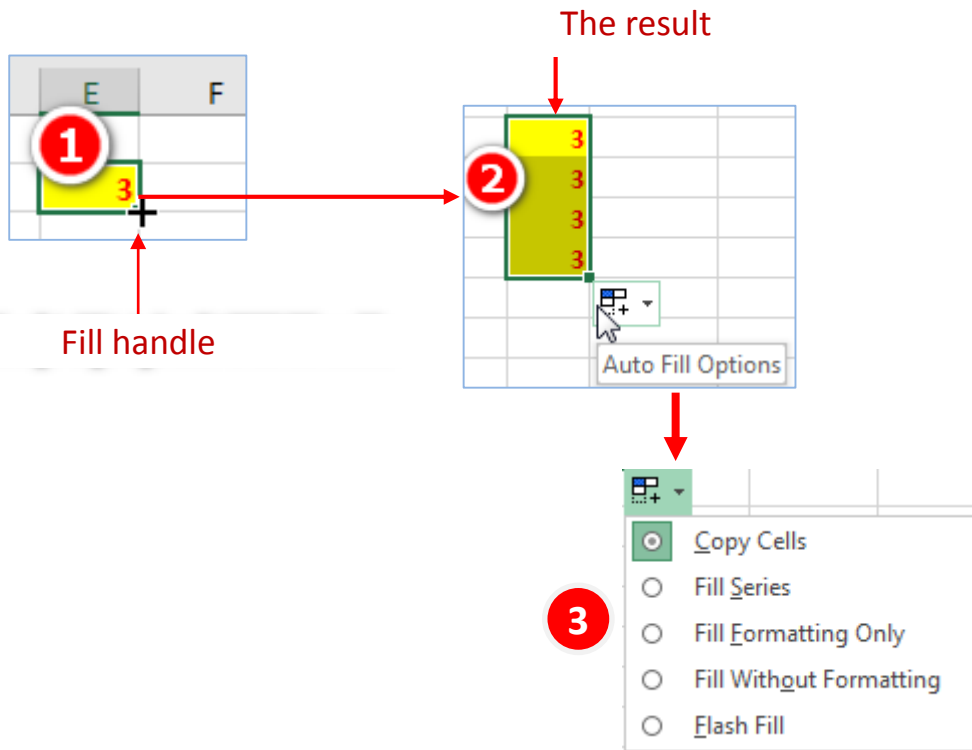

➢ **Auto Fill Options (3)**:

- **Copy Cells**: The value aned format are copied

- **Fill formatting only**: Only the format is copied.

- **Fill without formatting**: Only the value is copied

- **Flash Fill**: automatically fill the data when it senses a pattern

1. Automatically fill normal data

2. **Automatically fill a series of numbers**

3. Automatically fill a series of dates

4. Automatically fill a built-in custom list

5. Automatically fill a user custom list

- **Steps**: Select the beginning number cell **(1)** → drag the **Fill Handle** down or to the right **(2)** (place mouse at the lower-right corner of the cell) → select **Auto Fill Options(3)**.

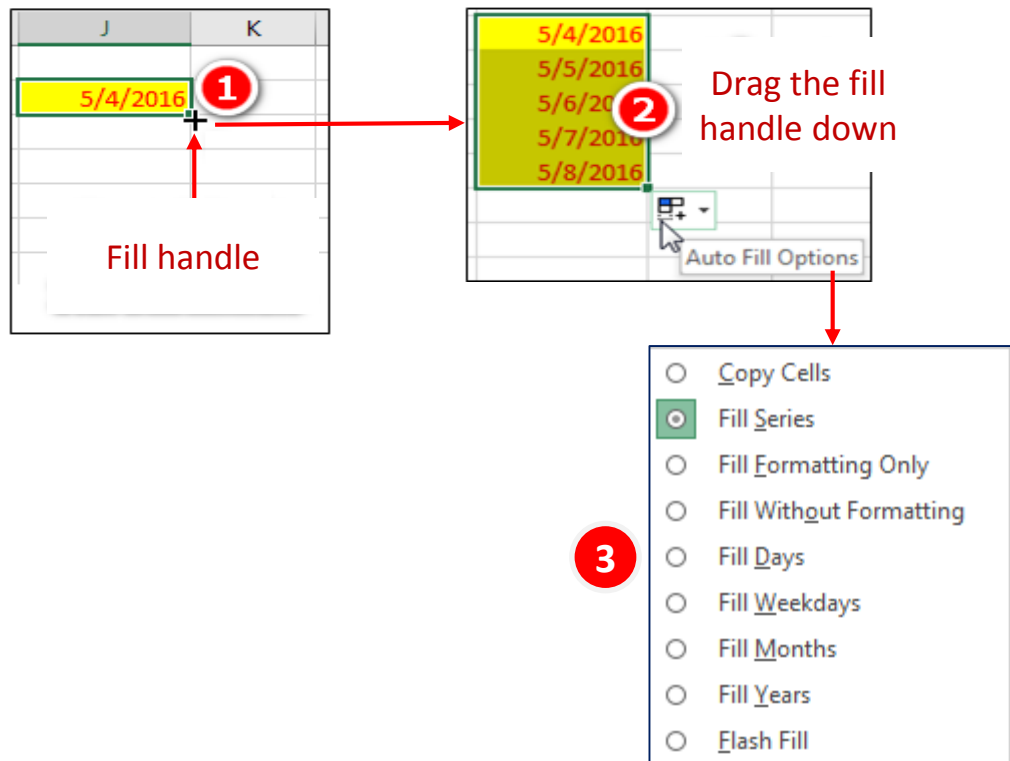The result

Fill handle

➢ **Auto Fill Options (3)**:

- **Copy Cells**: The value and format are copied

- **Fill Series:** Create an increasing series of number

- **Fill formatting only**: Only the format is copied.

- **Fill without formatting**: Only the value is copied

- **Flash Fill**: automatically fill the data when it senses a pattern

1. Automatically fill normal data

2. Automatically fill a series of numbers

3. Automatically fill a series of dates

4. Automatically fill a built-in custom list

5. Automatically fill a user custom list

5- Automatically fill a series of dates

- Steps: Select the beginning date cell **(1)** → drag the **Fill Handle** down or to the right **(2)** (place mouse at the lower-right corner of the cell) → select **Auto Fill Options(3)**.

Fill handle

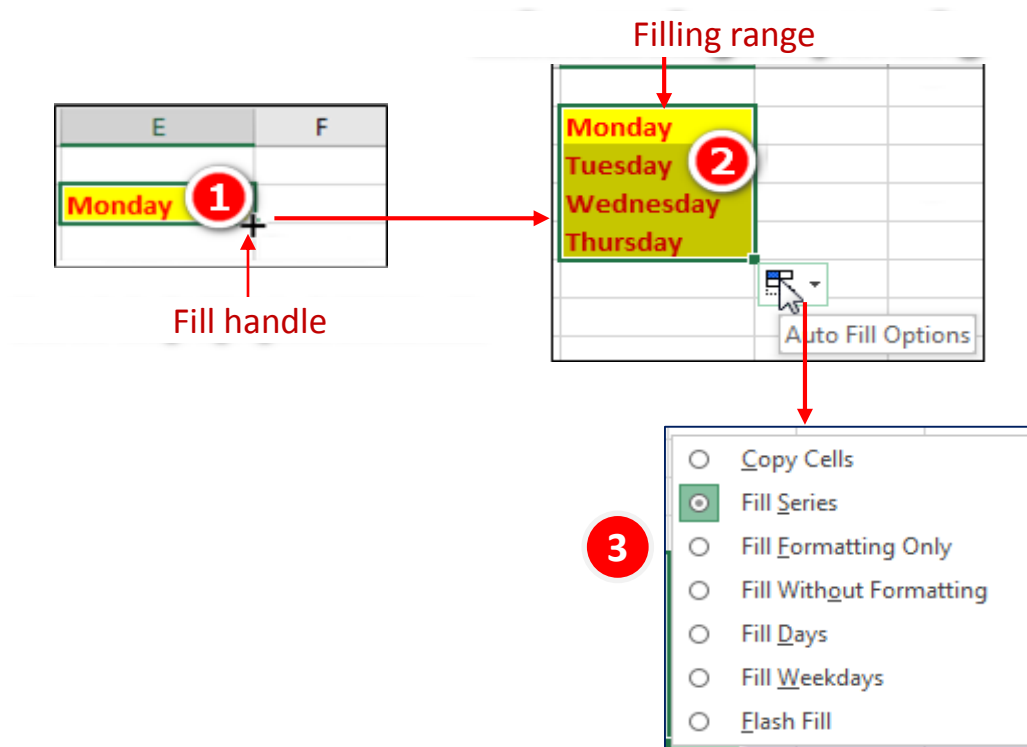Drag the fill handle down

○ Copy Cells
◉ Fill Series
○ Fill Formatting Only
○ Fill Without Formatting
○ Fill Days
○ Fill Weekdays
○ Fill Months
○ Fill Years
○ Flash Fill

➤ **Auto Fill Options (3)**:

- The four first options and the last option are the same with the options of filling numeric data

- **Fill Days**: Create a day increasing series of dates

- **Fill Weekdays**: Create a day increasing series of dates without Saturday and Sunday.

- **Fill Months:** Create a month increasing series of dates

- **Fill Years:** Create a year increasing series of dates

1. Automatically fill normal data

2. Automatically fill a series of numbers

3. Automatically fill a series of dates

4. Automatically fill a built-in custom list
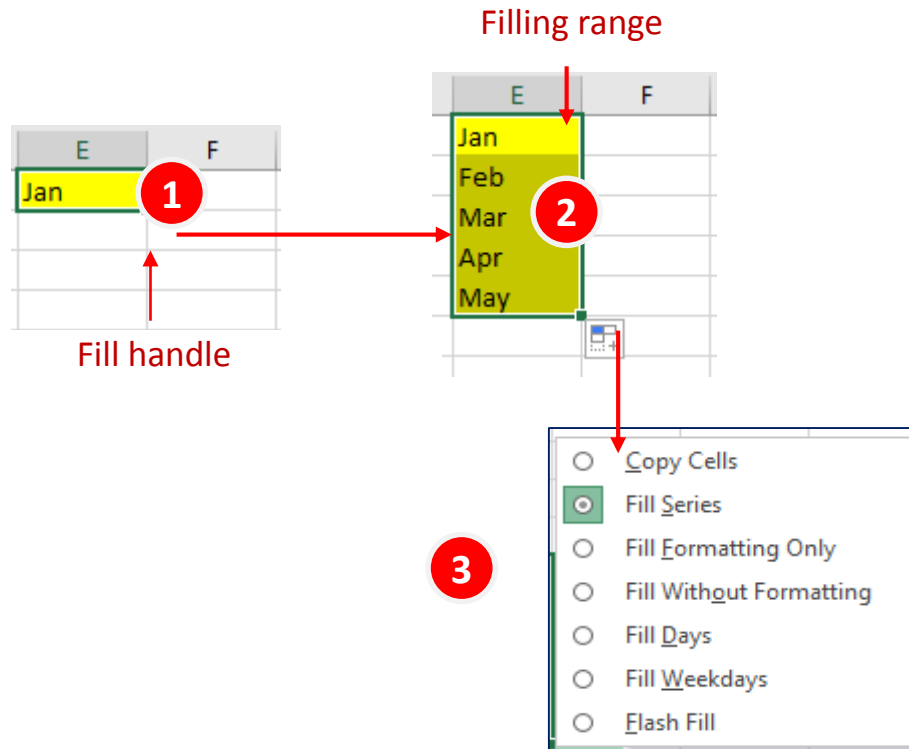
5. Automatically fill a user custom list

- **Automatically fill a series of days**: Select the beginning day cell **(1)** → drag the **Fill Handle** down or to the right **(2)** (place mouse at the lower-right corner of the cell) → select **Auto Fill Options(3)**.

- Automatically fill a series of months: Select the beginning month cell **(1)** → drag the **Fill Handle** down or to the right **(2)** (place mouse at the lower-right corner of the cell) → select **Auto Fill Options(3)**.

1. Automatically fill normal data

2. Automatically fill a series of numbers

3. Automatically fill a series of dates

4. Automatically fill a built-in custom list

5. Automatically fill a user custom list

5- Automatically fill a user custom list

- **To create a user custom list**: Tab **File (1)**→ **Options (2)** → **Excel Options is popped up (3)** → **Advanced (4)** → **Edit Custom Lists (5)** → **Custom Lists** dialog box is displayed.
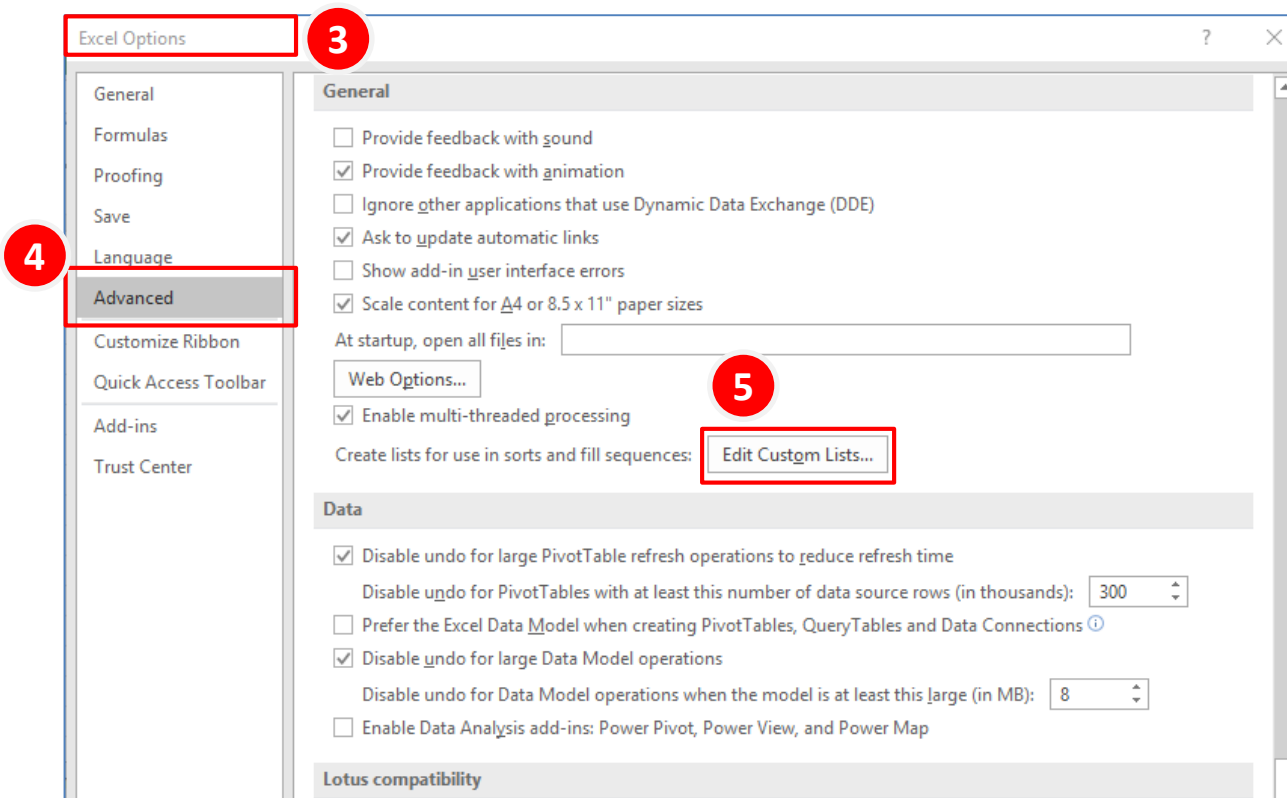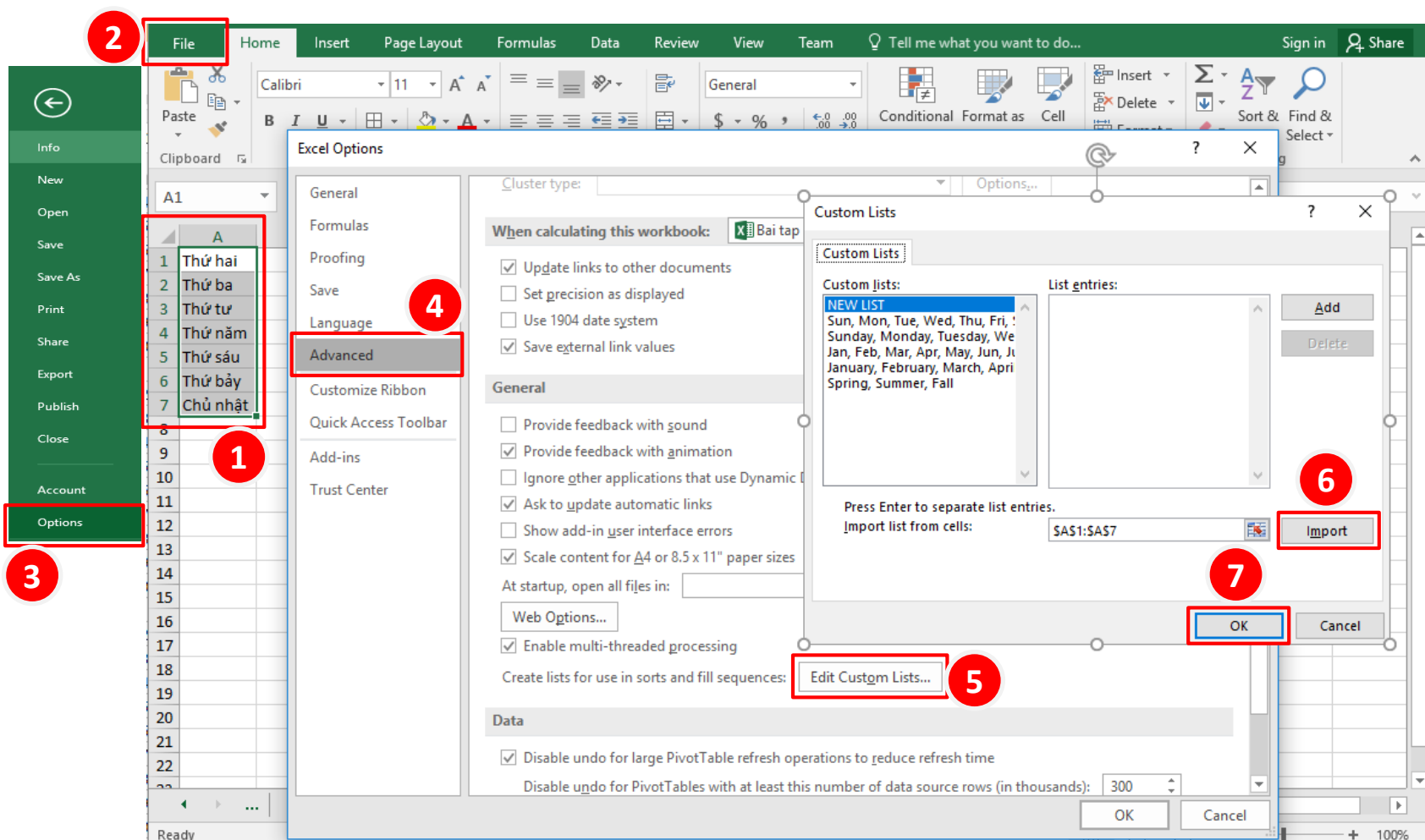
- **To create a user custom list (cont):** **New List** (6) → Enter the list in the **List entries** pane (7) → **Add** (8) → **OK** (9).
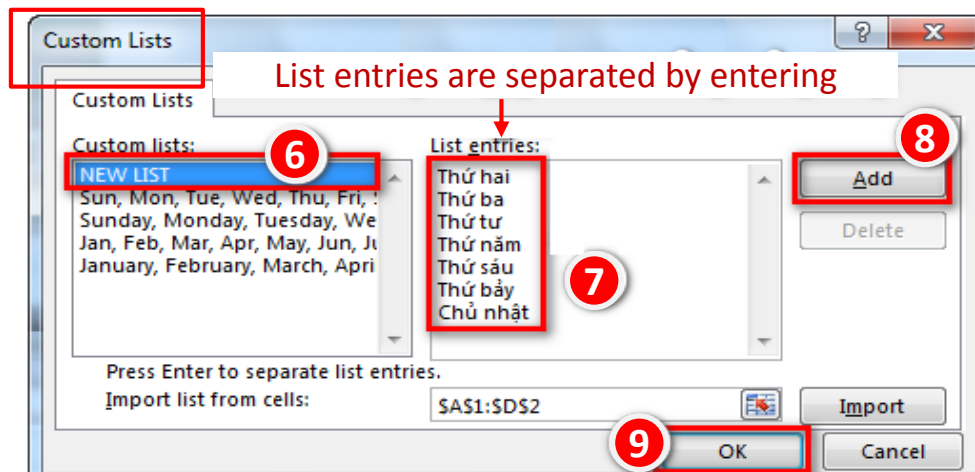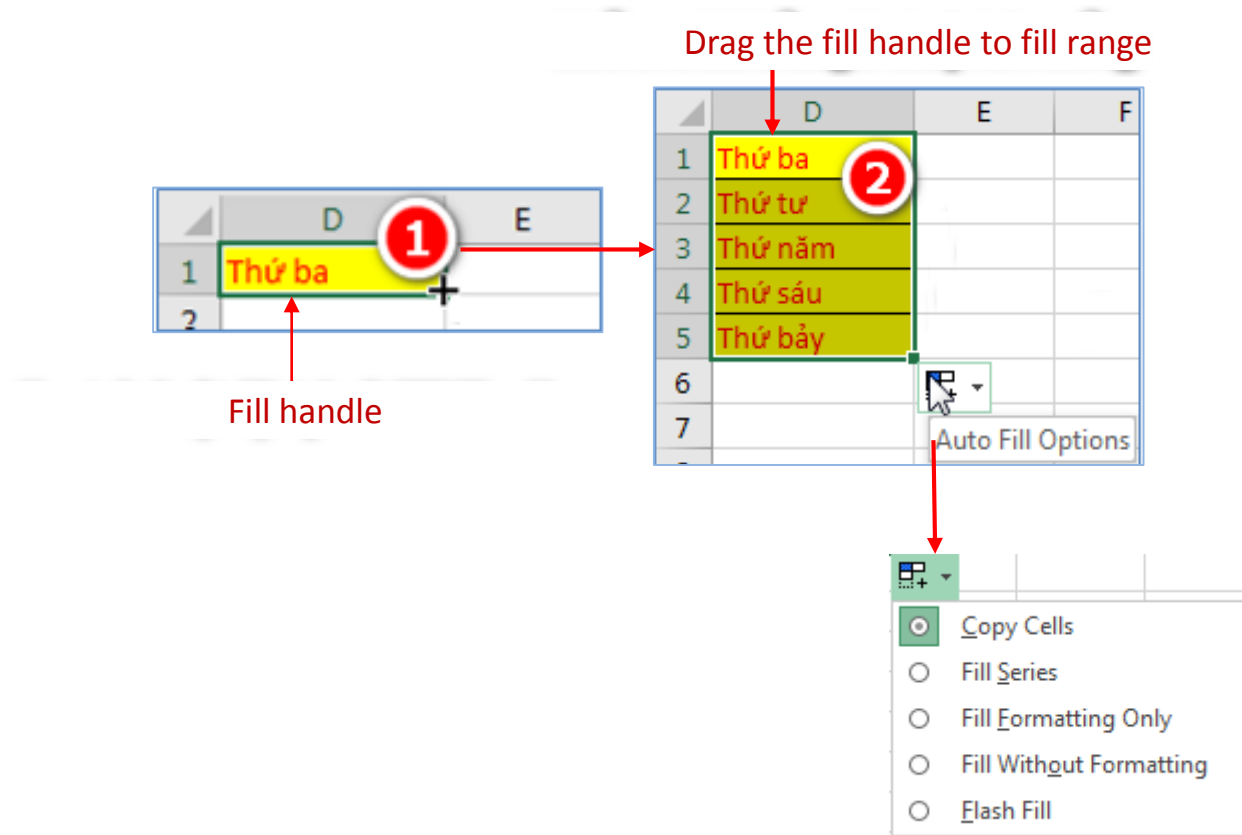
5- Automatically fill a user custom list

- To create a user custom list from a range: Select the range **(1)**→ tab **File (2)** → **Options (3)** → **Advanced (4)** → **Edit Custom Lists (5)** → **Import (6)** → **OK (7)**.

- To apply the new custom list:

Drag the fill handle to fill range

Fill handle

Auto Fill Options

- Copy Cells
- Fill Series
- Fill Formatting Only
- Fill Without Formatting
- Flash Fill

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4.1 Insert data in cells/ranges

4.2 Reuse data (copy/cut – paste)
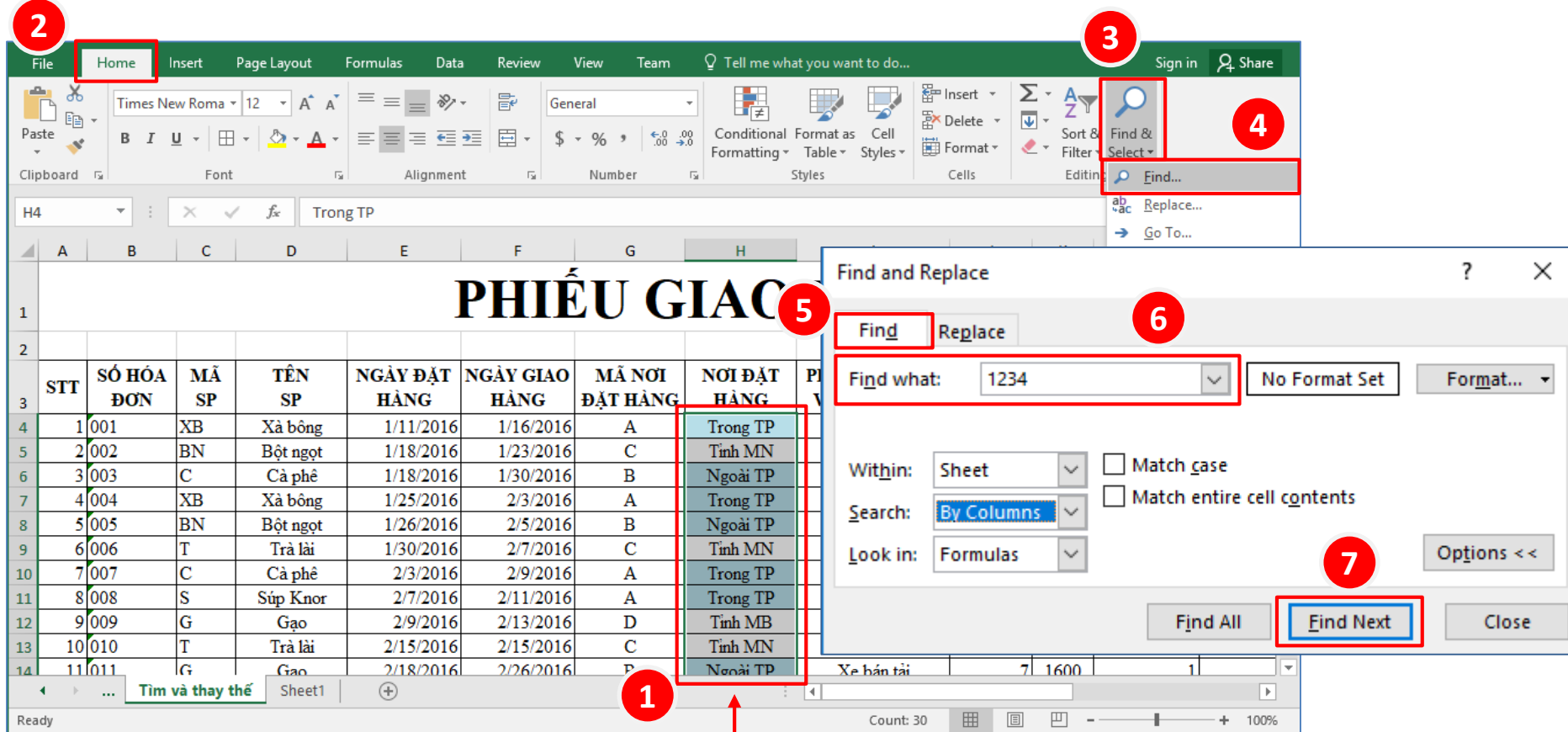
4.3 Construct cells (insert/delete)

4.4 Apply Auto Fill

4.5 Find and replace data

4.5 Find and replace data

- To find data:

Select the range to find

- To replace data:

Select the range to find and replace

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